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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,558	07/10/2003	Jeffrey A. Sell	GP-302454	2802

7590 05/19/2005

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EXAMINER

FASTOVSKY, LEONID M

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/616,558	Applicant(s) SELL ET AL.	
	Examiner Leonid M Fastovsky	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 8 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Cox et al (4,332,225).

Cox teaches an internal combustion engine with an oxygen sensor 40 and heater control of the oxygen sensor by measuring capacitance 43 between an electrode 41 and a shell that is connected to the ground (Fig. 1-6). Further, Cox teaches a power 16 applying to a heater 37 of the oxygen sensor 40 and also a controller 20.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5, 9-13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox in view of Takami.

Cox discloses substantially the claimed invention, but does not disclose power levels and a temperature range.

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Takami teaches a method for measuring oxygen levels in exhaust gas of a motor vehicle 10 comprising an oxygen sensor 30 (Fig. 2), a heater rod 33 coupled to the oxygen sensor, an outer electrode 36 surrounding the heater rod, a shell 12,31 surrounding the outer electrode, providing a first electrode 37 coupled to the outer electrode 36 and a second electrode from the heater control circuit 25 is coupled to the shell 12, 31, and a microprocessor 20 connected to the oxygen sensor 30 and determines the heater rod temperature settings. Further, Takami teaches power levels (col. 8, lines 56-67, col. 9, lines 1-9) and temperature range (col. 7, lines 55-65), but does not cite specifically first level of power, second level of power and temperature settings. It would have been obvious to one having ordinary skill in the art to use Takami's invention in the invention of Cox to include power levels (col. 7, lines 55-65) and to modify it to include temperature settings in response to measuring capacitances because Cox teaches the structural similarity of the disclosed invention, and has reasonable expectations of claimed characteristics.

5. Claims 6-7 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox in view of Takami and further in view of Tomisawa.

Cox in view of Takami teaches substantially the claimed invention including output voltage at specific time (col. 8, lines 56-67, col. 9, lines 1-9), but does not teach an elapsed time. Tomisawa teaches a method and diagnosis for an oxygen sensor 19 and timer T_m with an elapsed time in step 25 (page 5, [77]). It would have been obvious to one having ordinary skill in the art to modify invention of Cox in view of Takami to use

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an elapsed time in order to make a decision whether the value of the timer TM has reached a predetermined value as taught by Tomisawa (page 5, [77]).

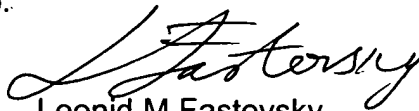
Response to Arguments

6. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

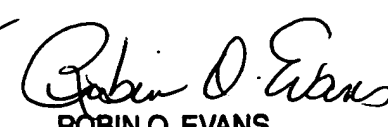
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leonid M Fastovsky
Examiner
Art Unit 3742

lmf

5/16/05 
ROBIN O. EVANS
PRIMARY EXAMINER
5/16/05